

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name: UNIVERSAL INK**
- **Article number: SH0066-E**
- **Application of the substance / the preparation** : Printing ink
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SHANGHAI DIC INK CO., LTD
〒201108 No.3888 Humin Road,
Minhang District, Shanghai, P.R. CHINA
TEL: +(86-21)64890888
FAX: +(86-21)64895834
- **Further information obtainable from:** Liquid Ink & Coatings Technical Dept.
- **Information in case of emergency:**
DIC Graphics Corporation
Tokyo Plant,
TEL: +81(3)3966-2111

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Repr. 2 H361d Suspected of damaging the unborn child.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Irritant



Xn; Harmful

R20/21-48/20-63-65: Harmful by inhalation and in contact with skin. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed.



Xi; Irritant

R38: Irritating to skin.



F; Highly flammable

R11: Highly flammable.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

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Label elements

Labelling according to EU guidelines:

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

Code letter and hazard designation of product:

Xn Harmful
 F Highly flammable
 N Dangerous for the environment

Hazard-determining components of labelling:

toluene

Risk phrases:

11 Highly flammable.
 20/21 Harmful by inhalation and in contact with skin.
 38 Irritating to skin.
 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 63 Possible risk of harm to the unborn child.
 65 Harmful: may cause lung damage if swallowed.

Safety phrases:

9 Keep container in a well-ventilated place.
 16 Keep away from sources of ignition - No smoking.
 36/37 Wear suitable protective clothing and gloves.
 57 Use appropriate container to avoid environmental contamination.

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description:

Mixture of substances listed below with nonhazardous additions.
 Pigment --- 0~30%
 Synthetic resins --- 10~30%
 Others --- 1~5%

Dangerous components:

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| | | |
|---------------------------------------|---|--------|
| CAS: 109-60-4 EINECS: | N-Propyl acetate ☒ Xi R36; 🔥 F R11 R67 Flam. Liq. 2, H225; Repr. 2, H361d; STOTRE2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOTSE 3, H336 | 20-30% |
| CAS: 67-63-0 EINECS: 200-661-7 | propan-2-ol ☒ Xi R36; 🔥 F R11 R67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOTSE 3, H336 | 10-25% |
| CAS: 108-65-6 EINECS: 607-195-00-7 | Propylene glycol methyl ether acetate ☒ Xi R36; ☒ F R11; R67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOTSE 3, H336 | 5-10% |
| CAS: 141-78-6 EINECS: 205-500-4 | Ethyl acetate ☒ Xi R36; 🔥 F R11; R66-67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOTSE 3, H336 | 10-20% |

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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· **Indication of any immediate medical attention and special treatment needed**
 No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
 Inform respective authorities in case of seepage into water course or sewage system.
 Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 Dispose contaminated material as waste according to item 13.
 Ensure adequate ventilation.
 Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 Ensure good ventilation/exhaustion at the workplace.
 Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
 Keep ignition sources away - Do not smoke.
 Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Store away from flammable substances.
- **Further information about storage conditions:**
 Keep container tightly sealed.
 Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

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· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

109-60-4 N-Propyl acetate

| | |
|-----|--------------------------------|
| TWL | Long-term value: 200 ppm Sk |
|-----|--------------------------------|

108-65-6 Propylene glycol methyl ether acetate

| | |
|-----|--------------------------------|
| WEL | Long-term value: 400 ppm Sk |
|-----|--------------------------------|

141-78-6 ethyl acetate

| | |
|-----|---|
| WEL | Short-term value: 400 ppm Long-term value: 200 ppm |
|-----|---|

67-63-0 propan-2-ol

| | |
|-----|--|
| WEL | Short-term value: 1250 mg/m ³ , 500 ppm Long-term value: 999 mg/m ³ , 400 ppm |
|-----|--|

· **Additional information:** The lists valid during the making were used as

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

| | |
|-------------------------|-----------------|
| Form: | Fluid |
| Colour: | Colour |
| Odour: | Acetate |
| Odour threshold: | Not determined. |

- **pH-value:** Not determined.

- **Change in condition**

| | |
|-------------------------------------|---------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 81°C |

- **Flash point:** -4°C(EA)

- **Ignition temperature:** Not determined.

- **Decomposition temperature:** Not determined.

- **Self-igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.

- **Explosion limits:** 1.2 Vol % 8.2

- **Lower: Upper:** Vol %

- **Vapour pressure at 20°C:** 104 hPa

- **Density:** Not determined.

- **Relative density** Not determined.

- **Vapour density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in /Miscibility with water:** Not miscible or difficult to mix.

- **Segregation coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

- **Dynamic:** Not determined.

- **Kinematic:** Not determined.

- **Other information** No further relevant information available.

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10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

LD/LC50 values relevant for classification:**109-60-4 N-Propyl acetate**Inhalative LC50/8 h 8700 mg/m³ (mouse)**141-78-6 ethyl acetate**

Oral LD50 5620 mg/kg (rat)

Inhalative LCLo/2 h 31g/m³ (mouse)**108-65-6 Propylene glycol methyl ether acetate**

Dermal LD50 5130 mg/kg (rabbit)

- **Primary irritant effect:**
 - **on the skin:** Irritant to skin and mucous membranes.
 - **on the eye:** No irritating effect.
 - **Sensitization:** No sensitizing effects known.
 - **Additional toxicological information:**
- The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
- Harmful
Irritant

12 Ecological information

- **Toxicity**
 - **Aquatic toxicity:** No further relevant information available.
 - **Persistence and degradability** No further relevant information available.
 - **Behaviour in environmental systems:**
 - **Bioaccumulative potential** No further relevant information available.
 - **Mobility in soil** No further relevant information available.
 - **Ecotoxicological effects:**
 - **Remark:** Toxic for fish
 - **Additional ecological information:**
 - **General notes:**
- Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.

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- Toxic for aquatic organisms*
- **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
 - **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information• **Land transport ADR/RID (cross-border)**

- **ADR/RID class:** 3 Flammable liquids.
- **Danger code (Kemler):** 33
- **UN-Number:** 1210
- **Packaging group:** II
- **Hazard label** 3
- **Special marking:** Symbol (fish and tree)
- **UN proper shipping name:** 1210 PRINTING INK RELATED MATERIAL, special provision 640D
- **Tunnel restriction code** D/E

• **Maritime transport IMDG:**

- **IMDG Class:** 3
- **UN Number:** 1210
- **Label** 3
- **Packaging group:** II
- **EMS Number:** F-E, S-E Yes
- **Marine pollutant:** Symbol (fish and tree)
- **Proper shipping name:** PRINTING INK RELATED MATERIAL (CYCLOHEXANE)

• **Air transport ICAO-TI and IATA-DGR:**

- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1210
- **Label** 3
- **Packaging group:** II
- **Proper shipping name:** PRINTING INK RELATED MATERIAL

• **UN "Model Regulation":** UN1210, PRINTING INK RELATED MATERIAL, 3, II

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- **Environmental hazards:** Product contains environmentally hazardous substances: cyclohexane
- **Special precautions for user** Warning: Flammable liquids.
- **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **National regulations:**

Printing inks are chemical compounds mixture.

So printing inks are shown by the mixture of many CAS No. (Chemical Abstract Number).

Several countries have their own chemical inventory systems.

The trading company must confirm all chemicals to meet the exporting country's inventory every time.

If you need to help, please contact the agent from DIC Graphics.

- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

- | | |
|--------------|---|
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H311 | Toxic in contact with skin. |
| H312 | Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H336 | May cause drowsiness or dizziness. |
| H361d | Suspected of damaging the unborn child. |
| H370 | Causes damage to organs. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| R10 | Flammable. |
| R11 | Highly flammable. |
| R20 | Harmful by inhalation. |
| R20/21 | Harmful by inhalation and in contact with skin. |
| R23/24/25 | Toxic by inhalation, in contact with skin and if swallowed. |
| R36 | Irritating to eyes. |
| R38 | Irritating to skin. |
| R39/23/24/25 | Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. |
| R48/20 | Harmful: danger of serious damage to health by prolonged exposure through inhalation. |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R63 | Possible risk of harm to the unborn child. |
| R65 | Harmful: may cause lung damage if swallowed. |
| R67 | Vapours may cause drowsiness and dizziness. |

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*** Contact:**

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*** Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO) GHS: Globally

Harmonized System of Classification and Labelling of Chemicals LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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